Foreign Animal Disease Report

United States Department of Agriculture
Animal and Plant Health Inspection Service
Veterinary Services
Emergency Programs

Number 22-1 Spring 1994

This Issue

Emergency Programs Activities

Field Investigations. During fiscal year (FY) 1993 (October 1, 1992–September 30, 1993), Veterinary Medical Officers from the U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services (VS), and State departments of agriculture conducted 299 investigations of suspicious foreign animal diseases (FAD) in the United States to eliminate the possibility that an exotic disease may have been introduced. These disease conditions included 72 (24 percent) for vesicular disease conditions, 124 (41 percent) for avian diseases in pet birds and poultry, 29 (10 percent) for encephalitic disease, 33 (11 percent) for mucosal disease, 14 (5 percent) for swine septicemia or edema disease, and 27 (9 percent) for screwworms, exotic ticks, or other disease conditions.

There were 77 investigations conducted in VS' Northern Region, 62 in the Southeastern Region, 109 in the Central Region, and 51 in the Western Region during FY 1993.

All investigations were negative for FAD or foreign pests.

Foreign Animal Disease Training. The Foreign Animal Disease Training Course for College Professors was held November 15–19, 1993, at the Foreign Animal Disease Diagnostic Laboratory (FADDL), Plum Island, NY. This annual workshop for teachers of infectious diseases provides participants with the opportunity to observe clinical signs and pathology for many of the exotic animal diseases foreign to the United States. A total of 21 veterinarians attended the workshop from 18 different universities and 3 foreign countries.

Foreign Animal Disease Update

This update consolidates information from Office International des Epizooties (OIE) bulletins into tables covering April through August 1993. Countries reporting disease outbreaks are listed below the appropriate disease heading (followed by the month/year of the report and total number of outbreaks reported for that time period). The notation "+" indicates that the presence of disease was reported without information on total number of outbreaks. Outbreak number followed by "+" indicates number of outbreaks as well as the presence of disease.

Foot-and-Mouth disease

Virus untyped
Argentina (2–4/93) 99
Bangladesh (1–3/93) +
Bhutan (4–7/93) 5
Brazil (1–4/93) 432
Chad (1–4/93) 3+
China (People's Republic) (6/93) 2
Hong Kong (1&2/93) 5
India (10/92–3/93) 426+
Iran (1–3/93) 107
Laos (1–3/93) +
Myanmar (3&5–7/93) 9
Pakistan (12/92–5/93) 11
Paraguay (8/93) 1
Senegal (11/92–3/93) +
Thailand (1&5–7/93) 6

Virus O
Argentina (2–4/93) 31
Bhutan (3/93) +
Brazil (1–4/93) 24
Bulgaria (5/93) 1
Colombia (2–7/93) 36
Ecuador (2–6/93) 20
Egypt (3–6/93) 40
Iran (1–3/93) +
Israel (5/93) 1
Italy (4&6/93) 6
Jordan (4/93) 1
Kenya (3–5&7/93) 4
Malaysia (peninsula) (4–7/93) 10
Nepal (10&11/92, 5&6/93) +
Oman (1–5/93) 66
Pakistan (12/92–3/93) +
Saudi Arabia (1–4/93) +
Thailand (1–6/93) 22
Turkey (3–7/93) 96
Uganda (1&2/93) 4
Venezuela (3/93) 1

Virus A
Argentina (3&4/93) 2
Brazil (1–4/93) 10
Colombia (2–7/93) 17
Pakistan (12/92–3/93) +
Russia (6/93) 1
Saudi Arabia (1–3/93) +
Turkey (3&4/93) 3
Venezuela (1&2/93) 3

Virus C
Argentina (2–4/93) 19
Nepal (4/92 & 4/93) +

Virus SAT 2
Kenya (3&6/93) 2+

Virus Asia 1
Thailand (1–7/93) 28

Vesicular stomatitis

Virus untyped
Panama (4&7/93) 6

Virus Indiana
Colombia (2,3,5–7/93) 15
Costa Rica (1/93) 1
Ecuador (6/93) 1
El Salvador (4/93) 1
Panama (7/93) 1

Virus New Jersey
Colombia (2–7/93) 99
Costa Rica (1–4/93) 6
Ecuador (3&5/93) 2
El Salvador (1,2,4&5/93) 16
Guatemala (1&3/93) 2
Honduras (1,2&4/93) 4
Mexico (3–7/93) 11
Nicaragua (1/93) 2
Panama (4,6&7/93) 3
Venezuela (3&6/93) 2

Swine vesicular disease

Italy (4–6/93) 3
Spain (4/93) 2

Rinderpest

India (10/92–3/93) 52
Oman (3&5/93) 3

Bluetongue

India (10&11/92, 1–3/93) 39
South Africa (3–7/93) +
United States (4–8/93) +
Zimbabwe (4/93) 5

Fowl plague

Bangladesh (1–3/93) +
Nigeria (1–6/93) +
Senegal (11/92–3/93) +

Newcastle disease

Virus not characterized
Albania (4&5/93) 8
Algeria (5/93) 1
Argentina (2–4/93) +
Austria (5&6/93) 2
Bangladesh (1–3/93) +
Belgium (2&3/93) 3
Brazil (1,3&4/93) 20
Chad (1–4/93) +
China (People's Republic) (1–6/93) 160
Colombia (4&5/93) 3
Cote-d'Ivoire (3–7/93) +
Egypt (1,2&4/93) 3
Guinea (3–8/93) +
Hong Kong (3,5&6/93) 4
India (10/92–3/93) 404
Iran (1–3/93) 153
Madagascar (7/92–3/93, 6&7/93) 21
Malawi (1–3/93) 7
Malaysia (peninsula) (4&7/93) 6
Mexico (3&7/93) 5
Mozambique (4–7/93) +
Myanmar (3–6/93) 11
Netherlands (3/93) 2
Nigeria (12/92 & 2/93) 8
Pakistan (3/93) 2
Philippines (2/93) +
Senegal (11/92–3/93 & 5/93) +
South Africa (3–7/93) 6+
Sri Lanka (1–3/93) +
Tajikistan (6/93) 1
Tunisia (4–6/93) 34
Turkey (3–7/93) 21
Uganda (1&2/93) +
Uzbekistan (5/93) 1
Yugoslavia (5/93) 1
Zambia (3/93) +

Velogenic virus
Belgium (4,6&7/93) 6
Botswana (1–7/93) 15+
Germany (4,7&8/93) 19
Kenya (3&7/93) 2
Korea (Republic) (3,4,6&7/93) 6
Luxemburg (4,6&8/93) 5*
Malaysia (peninsula) (7/93) 1
Mauritius (1–3/93) 6
Netherlands (1–3,6&7/93) 16
South Africa (6/93) 1
Sudan (4,6&7/93) 4

* Pigeons

Rift Valley fever
Egypt (7/93) 1
Mozambique (4–7/93) +
Zimbabwe (4/93) 6

Sheep and goat pox
Algeria (4–6/93) 39
Bangladesh (1–3/93) +
China (People's Republic) (1&2/93) 2
India (10/92–3/93) 47
Iran (1–3/93) 99
Libya (1–7/93) +
Oman (1–5/93) 11
Pakistan (3–5/93) 6
Senegal (11/92–5/93) 22
Tajikistan (3/93) 1
Tunisia (1–6/93) 75
Turkey (3–7/93) 36

Peste des petits ruminants
Cote-d'Ivoire (3&4/93) 2
Guinea (3–8/93) +
Israel (Controlled Territories) (8/93) 3**
Nigeria (12/92–6/93) 13
Oman (1–5/93) 71
Senegal (11/92, 1,3–5/93) 19

** This is the first report of peste des petits ruminants in Israel.

African swine fever
Italy (4–7/93) 58
Malawi (1–4/93) 9
Mozambique (4–6/93) +
Portugal (8/93) 3
Senegal (11/92–5/93) +
Spain (4–6/93) 11
Uganda (1/93) 2

African horse sickness
Mozambique (4–7/93) +
Nigeria (1–4/93) +
Senegal (11/92, 3–5/93) 7
South Africa (3–7/93) +
Zimbabwe (4–6/93) 10

Hog cholera
Argentina (2–4/93) +
Austria (5&6/93) 2
Brazil (2–4/93) 4
Bulgaria (3/93) 3
Chile (5–7/93) 4
China (People's Republic) (1–6/93) 152
Colombia (2–7/93) 11
Germany (4–8/93) 67
Hong Kong (3–6/93) 11
Hungary (5/93) 4
India (10/92–3/93) 40+
Italy (4,5&7/93) 3
Korea (Republic) (3–7/93) 13
Laos (1–3/93) +
Latvia (7&8/93) 2
Madagascar (8–10&12/92, 3&6/93) 9+
Mauritius (1–4/93) +
Mexico (3&5/93) 9
Myanmar (7/93) 1
Philippines (1,4–7/93) +
Russia (9–12/92) 15
Sri Lanka (1/93) +
Switzerland (6/93) 1
Taipei China (4,5&7/93) 6

Contagious bovine pleuropneumonia
Angola (5/93) 4
Cote-d'Ivoire (6/93) 4
Guinea (3–8/93) +
Italy (4–6&8/93) 4
Kenya (3,5&7/93) 5
Nigeria (12/92, 1&4–6/93) 9
Portugal (7–12/92) 419
Spain (6/93) 2
Uganda (1/93) 2

Lumpy skin disease
Botswana (1,2,4&5/93) 4
Kenya (3/93) 1
Madagascar (7/92–7/93) 112
Malawi (1–4/93) 27
Namibia (4–8/93) 16
South Africa (3–7/93) +
Uganda (1&2/93) 2
Zambia (3/93) +
Zimbabwe (4–8/93) 72

(Dr. Rob Tanaka, International Services (IS), APHIS, USDA, Hyattsville, MD 20782, 301-436-8892)

Screwworm Update

Mexico. The most recent reported positive screwworm case occurred on June 17, 1993. Because no further cases were reported in the eradication zone, sterile-fly dispersal ended in December 1993.

Guatemala. Sterile-fly dispersal began in September 1988. By January 1991, 100-percent coverage was achieved. Sterile-fly release continues around areas where imported cattle are assembled due to the risk of reintroduction from infested areas farther south. This programmed release will continue until Nicaragua is declared free from screwworm.

Belize. With Belize declared free of screwworm on June 21, 1992, only surveillance activity was conducted in the country. The last sterile-fly dispersal in Belize occurred the week of December 27, 1992. If progress continues in Honduras, all activity will end in June 1994.

El Salvador. The last screwworm case originating in El Salvador occurred on March 4, 1992. On October 28, 1993, El Salvador was declared technically free of screwworm. Inspection activities continue at the country's livestock markets where

livestock are imported from countries farther south. Sterile-fly dispersal will continue over the country due to its proximity to Honduras and Nicaragua, which remain infested with screwworm.

Honduras. Sterile-fly dispersal began November 15, 1991, with 40 million flies per week dispersed over the western part of the country. Currently, about 130 million sterile flies per week are being released with 40 percent of the country considered screwworm free.

The departments of Lempira, Ocotepeque, and Intibuca in western Honduras were declared technically free of screwworm on August 23, 1993. Over the last 8 months, no screwworm cases have been reported from these areas. This was the first technical declaration in Honduras. Sterile fly dispersal was suspended over these areas the week of June 28, 1993.

Nicaragua. With the first dispersal of 15.7 million sterile flies the week of July 12, 1993, Nicaragua became the front line of the Screwworm Eradication Program. Eradication of screwworms in Nicaragua will be significant because the country exports livestock to countries both north and south of its borders. About 60 million sterile flies per week are available for release in Nicaragua.

(Dr. Ed Gersabeck, IS, APHIS, USDA, Hyattsville, MD, 20782, 301-436-8892)

Bovine Spongiform Encephalopathy (BSE) in Canada

On December 7, 1993, APHIS, VS, was notified by Agriculture Canada that BSE was confirmed in a cow brain submitted from the Airdrie Animal Health Laboratory in Alberta, Canada. VS responded by sending a technical team to Canada to assess the situation. Based on the information and data collected and the actions taken by Agriculture Canada, the technical team has recommended that USDA impose no restrictive measures on the movement of cattle and cattle byproducts into the United States from Canada. Additionally, VS recommended that Canada not be considered infected with BSE due to this single case in a cow whose importation from the United Kingdom was confirmed. The team also recommended that any cattle imported from the United Kingdom remaining in the United States be relocated, purchased by APHIS, VS, and euthanized.

The index case, a 6-year-old Salers cow, was part of a registered herd located near Red Deer, Alberta. The 250-head herd is used for the production of quality breeding stock as well as for semen and embryo collection. One bull from this herd is now in Montana being tested for semen collection. Since 1990, the cattle imported from the United Kingdom in this herd have been under an enhanced BSE surveillance program. As of November 21, 1993, the index cow had produced five calves: two were slaughtered as nonbreeders, and three remain alive. These cattle were examined by Canadian veterinary officials and reported as being clinically normal.

On November 21, 1993, the owner reported that the affected cow was stumbling around in a blizzard and might have a broken leg. On November 22, the owner euthanized the cow and notified Agriculture Canada veterinarians in Calgary about the disposal of the cow due to import surveillance program requirements. The head was submitted to the Airdrie Animal Health Laboratory for examination, where it was determined to be free of rabies and a tentative diagnosis of BSE was made. The herd was quarantined on November 29, and the carcass was incinerated at the laboratory. Brain samples and slides were forwarded to the Agriculture Canada National Veteri-

nary Laboratory in Nepean, Ontario, where a definitive diagnosis of BSE was made. In addition, the diagnosis of BSE was confirmed by the National Veterinary Laboratory in Weybridge, England, on December 7, 1993.

The index case was imported from England into Canada as a 4-month-old calf on January 27, 1989. All of the 13 calves in the same lot were between the ages of 4 and 6 months, and all had originated from 3 farms in the United Kingdom.

The herd of origin was traced to a premises in Crosthewaite, England. This herd is not known to be infected with BSE, but another BSE-infected cow on a different premises in the United Kingdom was traced back to this herd in 1990. The newborn calves were hand-fed on this farm with a milk replacer that contained meat-and-bone-meal-derived (MBM) protein concentrate. Based on the current hypothesis and the available feed data from the United Kingdom, the MBM milk replacer is a probable source of exposure to the BSE agent.

Canada reports that 183 head of cattle were imported from the United Kingdom during the 1980's. Of these cattle, 72 head remain alive and are located on 25 premises throughout Canada. These animals have remained under surveillance and have been monitored for BSE since the import ban was started by Agriculture Canada in 1990. In addition, Canadian officials are working to determine the present BSE status of the herds of origin in the United Kingdom. Certification of all remaining imports is now being updated. Of the 183 Canadian imports from the United Kingdom, 22 have been sold to buyers in the United States. All 22 are being traced by Agriculture Canada.

Agriculture Canada is following the control guidelines for BSE as set forth by OIE. Canada proposes to destroy the remaining five Salers cows that were imported with the index case, examine the brain tissue for evidence of BSE, and dispose of the carcasses by incineration. The three remaining progeny of the index case will also be destroyed and examined. If any of the tissue examinations reveal the presence of BSE, then all the progeny (first generation) from those cows will be destroyed and examined. The information gained from these animals will determine what other actions may be needed.

Agriculture Canada promptly contacted the United States, New Zealand, Mexico, Australia, Japan, and OIE with notice of the BSE diagnosis. New Zealand is not taking actions to restrict the importation of Canadian commodities and does not consider Canada to be "infected" with BSE. Mexico temporarily placed a restriction on the import of all cattle and cattle byproducts from Canada, but the restriction has been lifted. It was reported the countries in the European Community are waiting pending actions taken by the United States. As of February 1, 1994, the U.S.–Canadian border remains open.

OIE officially recognizes BSE as a disease of individual animals that is not considered to be transmissible from animal to animal or to the offspring of affected cattle.

The cost for the elimination of the remaining U.K. cattle imports in Canada is estimated to be $700,000 Canadian. Canada can pay up to $2,000 per head for registered cattle.

(Dr. Adam G. Grow, Emergency Programs, VS, APHIS, USDA, Hyattsville, MD, 20782, 301-436-8073)

BSE Update

In Portugal. A cow that had been imported into Portugal from the United Kingdom in July 1987 was diagnosed with BSE on May 14, 1993. The affected premises was located in the Montalegre district, Tras-os-Montes region, in northern Portugal. The cow died after calving, and the carcass was buried onsite. The calf has been acquired by the National Veterinary Laboratory at the Institute for the Protection of Agricultural Food Production, Lisbon, Portugal, and animal movements to and from the infected farm are being investigated.

Surveillance in the United States. From the onset of the BSE Surveillance Program in May 1990 through FY 1993, 1,215 samples have been submitted for examination. The sources of brain tissues include suspected foreign animal disease investigations, rabies-negative cases, slaughterhouse collections, and veterinary diagnostic laboratories. All of the samples were negative for histopathological evidence of BSE.

A BSE surveillance pilot project has been initiated by APHIS, VS, and USDA's Food Safety and Inspection Service (FSIS). Five slaughter plants in selected States have agreed to contact VS when nonambulatory adult cattle ("downer cows") are condemned antemortem. A VS foreign animal disease diagnostician will be assigned to collect brain tissues from these animals for submission to the National Veterinary Services Laboratories, Ames, IA.

(Dr. Sara Kaman, Emergency Programs, VS, APHIS, USDA, Hyattsville, MD, 301-436-7831.)

Salmonella enteritidis (SE) Phage Type 4: Current Information

Since 1988, the issue of *Salmonella enteritidis* has increased in significance, and thus, the resulting information base has undergone continual expansion. Initial field observations have been reevaluated in the past year in response to increased scientific inquiry. Indepth, ongoing studies of virulence characteristics and further scientific inquiry into causes of human foodborne SE outbreaks in the United States and in Europe continue. These investigations, in conjunction with a growing number of field and laboratory studies of poultry infections, provide a somewhat different picture of SE in 1993 than that reported in previous years. However, present guidelines and regulations to control the spread of this organism in poultry are based on the previous assessment of its virulence and epidemiology.

Current Knowledge of SE in Human Populations. The virulence of SE phage type 4 in human outbreaks and in individual cases appears no different than that of other phage types of SE. Mortality rates within human outbreaks are not greater, nor are there indications of smaller infective doses causing illness or extended duration of carrier status for individual cases.

Differences in rates of SE infection seen in other countries are most likely due to differences in raw food processing (e.g., egg or raw meat processing and handling prior to commercial or home use in foods) and in food preparation (e.g., cultural adherence to specific practices in traditional recipes often with inadequate cooking times and temperatures to kill the organism). The larger per-capita consumption of such types of foods of animal origin in Europe and other countries creates an inaccurate characterization of the SE phage type 4. The organism is characterized as more virulent than other phage types when virulence is not uniquely due to biologic differences within the organism.

Current Knowledge of SE in Poultry.

1. Irrespective of phage type, SE is an egg-transmitted organism that can pass through the egg-production chain in all types of poultry.

2. Irrespective of phage type, SE can cause—but does not routinely cause—economic disruption in the chick-production portion of the poultry industries, similar to the behavior of *S. pullorum*. Either serotype can increase rates of nonviable or infertile hatching eggs and sick and/or unthrifty chicks. Disruption in ability to predict hatch rates and volume of production of viable chicks means businesses can find themselves unable to fulfill contractual orders negotiated months earlier.

3. In general, SE, including phage type 4, can produce temporary decreases in overall egg production, although these decreases are not consistently found in flock infections.

4. SE phage typing determined by current methods does not define unique physical characteristics that cause increased or decreased virulence of SE organisms.

5. Coinfection with other SE serotypes and other poultry reproductive or immune-system pathogens is the most likely cause of clinical symptoms and/or decreased egg production in commercial or breeder chickens (i.e., SE is primarily an opportunistic pathogen).

6. USDA Agricultural Research Service laboratories are able to elicit a change in phage type of an SE isolate by physical/chemical manipulation of the isolate. This finding could mean that a nonphage type 4 SE isolate present in the United States could be altered by a routine industry practice and subsequently be identified as a phage type 4. This alteration would not necessarily change the virulence characteristics of our present phage types of SE.

Impact of SE Phage Type 4 as an "Exotic" Disease. SE does not spread as rapidly or as easily as most viral diseases among species. Its behavior, if introduced, could be assumed to be similar to that of *S. pullorum* in the Delmarva poultry industry outbreak of 1991–92. That outbreak was confined to five States on premises owned by a single multi-State company, even though initial detection and control efforts were delayed at least 1 to 2 years after detection of the disease. (One other operation in the Delmarva area was minimally involved.)

While all SE phage types appear to possess enhanced ability to persist outside the infected bird in the environment as compared to *S. pullorum,* the predominant mechanism of geographic spread for both serotypes is vertical transmission, resulting in hatchery contamination and dissemination of the organism through chicks.

Extrapolating from the experience and information gained from the '91–'92 *S. pullorum* outbreak described above, the introduction of an SE phage type 4 into this country into an individual poultry operation, even if it is a large multi-State operation, would be unlikely to affect or put at great risk other segments of the diversified U.S. poultry industry. The disease risk to other-species industries would also be minimal.

Continuing Need for Research and Development. A testing and categorization system is critically needed for resolution of SE virulence concerns that gives more information than the current phage typing system does relative to virulence-causing structural properties of the SE organism. New methods based on surface protein or lipid characterization and DNA and/or RNA structure are presently being explored, although none has yet been validated.

(Dr. Larry Shipman, Area Epidemiologist, VS, APHIS, USDA, Indianapolis, IN, 317-290-3300)

Foot-and-Mouth Disease (FMD) in Italy—Lifting of Sanitary Measures

The last outbreak of FMD in Italy was observed on June 7, 1993, in Caserta province, Campania region. (See Summer/Fall 1993 Foreign Animal Disease Report, Number 21-2/3.)

The Veterinary Services of Italy, in accordance with the decisions of the European Community, have conducted a serological survey covering susceptible animals present in those provinces where outbreaks of FMD were reported.

Since September 15, 1993, the export of live animals and animal products of susceptible species has been authorized from all of Italy except Caserta province, where the serological survey of cattle, buffalo, sheep, and goats is still in progress.

[Source: OIE Disease Information, October 1, 1993, Vol. 6, No. 37.]

Scrapie Diagnosed in Israel

Scrapie has been diagnosed for the first time in Israel in a flock of Assaf sheep in the northern part of the country. The outbreak was reported on October 22, 1993, in a dairy sheep flock in Shefram, Acco district. The flock consisted of 111 sheep and 2 goats. Two clinically symptomatic animals were histologically positive, and the owner reportedly also had several other symptomatic animals during the previous few months. The investigation is ongoing, and additional diagnostic samples are being evaluated.

The affected flock contained Assaf–Chios crossbreeds. Chios sheep had been imported into Israel from Cyprus in 1978. It is unknown when these Chios sheep entered the affected flock, but Chios sheep in Cyprus have a relatively high incidence of scrapie.

The entire Israeli flock has been depopulated, and the premises have been cleaned and disinfected.

[Source: OIE facsimile to IS, APHIS, USDA; and Dr. Paul E. Bendheim, Department of Neurobiology, Weizmann Institute of Science, Rehovot, Israel]

Anthrax in North Dakota

Seven confirmed cases of anthrax in cattle and swine were reported in southeastern North Dakota August 17–September 17, 1993. The last reported cases of anthrax in cattle in that part of North Dakota were in the 1800's.

The North Dakota cases were clustered within a relatively narrow geographic range (the Cheyenne River valley), suggesting that the outbreaks may have been related to last summer's heavy flooding.

State, Federal, and private veterinarians in the State were alerted to the outbreak. The North Dakota State Health Department, the Livestock Sanitary Board, the Centers for Disease Control and Prevention (CDCP), and APHIS were involved in control and eradication measures. The North Dakota State Health Department requested a health hazard evaluation (HHE) by the National Institute for Occupational Safety and Health (NIOSH) to determine the risk factors for anthrax spread in cattle and to conduct environmental sampling. Data from the HHE were also intended for use in preventing an outbreak of anthrax among people. Livestock owners with infected animals vaccinated the remainder of their herds to prevent further spread.

Anthrax is a disease of virtually all warmblooded animals, including man, caused by the bacterium *Bacillus anthracis*. The disease occurs worldwide, and sporadic outbreaks are not uncommon in the United States, especially in North and South Dakota, Nebraska, Arkansas, Mississippi, Louisiana, Texas, and California. Outbreaks of anthrax are associated with marked climatic or ecologic change, such as heavy rainfall, flooding, or drought. After the organism is discharged from an infected animal, spores are formed that can lay dormant in the soil for decades and then revert to an infectious form when optimal environmental conditions of soil, moisture, and temperature occur.

The anthrax organism does not transfer readily from one live animal to another. It usually is transmitted when the animal dies and discharges of blood or other body fluids contaminate the environment. The spores are then ingested by other animals when they feed.

People may develop localized skin lesions when broken skin contacts infected blood or tissues. However, anthrax may kill people if they inhale spores when handling contaminated wool or hair or consume undercooked contaminated meat.

Anthrax can be spread by inappropriate disposal of dead animals. The recommended disposal practice for contaminated carcasses is to bury them at least 6 feet deep along with about 6 inches of topsoil that may have been contaminated where the carcass was discovered. Burning of the carcass prior to covering is also advisable.

Epizootic Hemorrhagic Disease (EHD) Outbreak in West Virginia Deer and Cattle

A substantial deer die-off due to epizootic hemorrhagic disease virus (EHDV) was confirmed in adjoining Hardy and Hampshire Counties, West Virginia, by the isolation of EHDV serotype 2 from spleen and blood samples. Deer mortality was first reported on July 11, 1993. As of October 15, more than 200 dead whitetails had been counted, 192 of which were in Hardy County. All age classes were affected. In most cases, dead deer were found along water courses, especially small feeder streams. The outbreak appears to have been very localized, and deer were not affected in adjacent Virginia counties.

Hemorrhagic disease is the most important infectious disease of white-tailed deer in the United States. It is caused by either of two closely related viruses, EHDV or bluetongue virus (BTV). Because clinical disease features produced by these viruses are indistinguishable, the general term "hemorrhagic disease" is often used when the responsible virus is unknown.

An interesting aspect of this outbreak is the involvement of cattle. EHDV can infect domestic ruminants, but cattle generally show no clinical illness or only mild disease when infected. However, in this outbreak, cattle exhibiting severe lameness, inflammation of the hard palate, and erosive lesions and crusting of the nostrils and mouth

were observed in several herds near the Hardy/Hampshire County line. Some cattle mortality occurred, and six herds were quarantined for suspected BTV infection. BTV and EHDV can cross-react serologically, but a differential diagnosis between the two can be made through a variety of testing procedures. Samples submitted to the National Veterinary Services Laboratory, Ames, IA, were diagnosed as positive for antibodies to EHDV by serum neutralization and electroimmunosorbent assay (ELISA).

Followup serologic surveillance of hunter-killed white-tailed deer is planned for the 1993–94 hunting season in cooperation with the West Virginia Department of Natural Resources and the Virginia Department of Game and Inland Fisheries.

[Source: Southeastern Cooperative Wildlife Disease Study (SCWDS), College of Veterinary Medicine, University of Georgia, Athens, GA, 30602, 706-542-1741)

National Center for Import and Export/ Products—1993 Summary of Major Decisions

Final Rules

Denmark was added to the USDA list of countries in the Code of Federal Regulations (CFR), Title 9, Part 94.13 that, although recognized as being free of swine vesicular disease (SVD), are subject to special restrictions on the importation of their pork and pork products into the United States. Denmark was also removed from the USDA list of countries recognized as being affected with BSE.

Spain, France, New Caledonia, and the **Netherlands** have been recognized by USDA as free of FMD and rinderpest.

Chile has been recognized by USDA as free of SVD and velogenic viscerotropic Newcastle disease (VVND).

Additional restrictions have been placed upon the importation of meat from ruminants and swine from **Northern Ireland** and the **Republic of Ireland** due to new conditions in these two countries that have made possible the commingling of imported disease-contaminated meat or meat products with domestic disease-free meat or meat products.

Portugal has been added to the USDA list of countries published in 9 CFR 94.18 recognized as being affected with BSE.

Proposed Rules

The **Republic of Korea, Belgium,** and **Germany** have requested that the USDA recognize them as free of FMD and rinderpest.

Portugal has requested USDA to recognize it as free of African horse sickness.

The cooperative pork processing project with **Spain** has been successfully completed, and the results have been published in Food Microbiology. However, due to an outbreak of SVD in Spain earlier in 1993, the proposed rule to approve the importation of such pork products as Serrano hams, Iberian hams, Iberian pork shoulders, and Iberian pork loins has been delayed.

Revision of 9 CFR 94.12(b)(1)(iv): A revision of this section is proposed permitting the removal of bones from pork products originating from SVD-free countries and processed in USDA-inspected and approved facilities located in an SVD-affected country.

Austria has requested USDA to recognize it as free of FMD, rinderpest, and SVD. **Hungary** has requested that USDA recognize it as free of FMD and rinderpest. APHIS, VS, reviews of each country have been completed, and a panel met to evaluate the animal health status of these two countries. A proposed rule is pending.

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